



MARCH 1988

COLORADO SPRINGS,
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PIKES PEAK RADIO AMATEUR ASSOCIATION, INC.

P.O. Box 16521
Colorado Springs, CO 80935

FIRST CLASS MAIL



Ø BEAT



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ZERO BEAT is published monthly in the interest of the members of the Pikes Peak Radio Amateur Association, Inc., P.O. Box 16521, Colorado Springs, Colorado 80935. Cost is 50¢ per month for non-members or a \$4.00 per year subscription. Permission is given to reprint articles or excerpts provided credit is given. Deadline for submission of articles is the 21st of the month. Classifieds accepted anytime.

The Pikes Peak Radio Amateur Association meets on the second Wednesday of each month at Giuseppe's Depot Restaurant at 10 S. Sierra Madre at 7:30 p.m. All amateurs and interested parties are invited to attend.

Editor: Keith Goobie NYØT, 5335 Coneflower Ln., Colorado Springs, CO 80917 637-1525

EDITORIAL

VOLUNTEER EXAMINERS ARE "VOLUNTEERS"

On 13 Feb 88, another VEC session was successfully held in the Colorado Springs area. Success does not imply that everyone passes, but that all those that showed up desiring to take an examination were accommodated and no pre-registration was required. That particular is worthy of note in that it was one of the largest session held with 24 people taking exams and an overall success rate of 76% was achieved.

Unlike other VE's outside Colorado Springs, the local VE's do not require pre-registration or a limit to the number of walk-ins (if walk-ins are permitted). It is comforting to know that you can attend at any time with no fear of not having pre-registered and making sure that you contact the right people. This position was adopted to allow flexibility in a person's schedule.

Certainly the number of people who showed was unexpected based on previous session's attendance. What was particularly annoying were the critical comments on the way in which the exams were conducted. It was my understanding that most complaints arose from the perception that the VE's were not faster than they were (in correcting exams) and they did not like the equipment used for the CW exams.

I want to point out that those people who administer and correct the exams are volunteers and receive no money for their time. The fee (\$4.55) collected at registration covers administrative costs only (reproduction, stamps, envelopes, etc).

Registration is slow, but it is a process that must be thoroughly completed. An incorrect Form 610 that is received at the FCC (without having received VE scrutiny) will only result in an additional 4-6 weeks before you get your new or upgraded licence! Let me say that you have an option - pay now or pay later!

We are not given a sum of money for equipment. What we have is donated by a single person or it is borrowed from club resources. We try our best based on test location to give you the best operating conditions. We are flexible based on numbers taking the exam.

Based on my conversations with people who have taken their exams when the FCC was administering, ours is a much better system. No traveling to a larger center or taking an exam with a large number of people.

What am I asking for? TOLERANCE & UNDERSTANDING! The system is by no means perfect, yet I believe we are the most flexible group around (and learning). We can always use volunteers. So why not upgrade to Advanced or Extra so that you too can become a VE! The more the merrier (and maybe faster)

"THE VIEW FROM THE PEAK" by George Hinds, N8CIX

QSL CARDS CAN BE DIFFERENT

Since my personalized QSL card joined others on display at the local ham store, I've had several inquiries about how it was made and from whom I purchased the cards.

It's obvious that I did not use a rubber stamp to add my call and address to a postcard. Trying to use rubber stamp ink on picture postcards with neatness is difficult, if not impossible. Instead, I obtained "stick on" decals that are "print shop" quality. The printed rolls of call and address are on transparent plastic backing and do not "blank out" the scene on the card.

Postcards can be bought almost anywhere; you can choose scenic cards showing your local attractions or, as I have, those that show locomotives and trains (often those that I worked on during my years as a railroader) available from a specialty card supplier.

You can also purchase pads of "QSL information" forms with adhesive backs or, if you prefer, a rubber stamp to use on the reverse of postcards. I sometimes simply type or write the info required along with accompanying remarks.

Perhaps you may know of a shop locally that can do this? I have ordered mine for years from "My Type Shop" whose ad currently appears in QST (March - page 136).

NEW 10 METER RIGS COMING! IT'S GOOD NEWS - OR IS IT?

It's been confirmed now, according to "W5YI Report", that Uniden (Bearcat scanners, radar detectors and CB radios, etc.) will begin about May to market a new 10 meter amateur band rig.

Apparently Uniden feels that the rig will sell to amateurs as a result of the change of regulations permitting novices (and techs) to operate voice in a part of the 10 meter band.

Uniden states that the rig will be promoted for sale in the licensed ham radio market. It will cover from 28.000 to 29.899 MHz in 4 band segments, and run 25 watts on SSB, 10 on AM/FM. Suggested price is contemplated in the \$400 bracket.

Now comes the potentially "bad" part: since "truck stops" frequently market Uniden radios, radar detectors and scanners, it's possible that the new 10 meter transceivers will be for sale where truckers congregate. It is unlikely that factory distributors will restrict their sales only to ham dealers, so the possibility of purchase by non-hams for unauthorized use may become a matter of concern to amateurs and FCC alike...

Further news: by year end, Radio Shack is rumored to be selling a 10 meter transceiver... but won't comment on new products until available.

RAILROAD RADIO -- NO, NOT AGAIN? READ ON:

Many of you will recall that I filled you up (and perhaps "overfilled" some of you) with "smart pills" about railroad radio and communications, from early days through the present.

In that article, mention was made of testing of a radically new "Advanced Train Control System" that would revolutionize the operation of trains, passenger and freight, by use of radio and computers.

What was once a dream is about to become a reality - FCC has authorized the AAR (Association of American Railroads) to use frequencies in the 900 MHz region to operate the new ATC System. The AAR has filed to license over 2000 base and 30,000 mobiles! More base stations added later brings the total to 3K!

The train crew will use a plastic card to initiate control after which the computer on the locomotive will display routes, activate switches and issue instructions, taking over control if a command is not obeyed by crewmen. Master control will be by main computers at control centers. Location of the train will be known at all times, and speed can be regulated for greatest time and fuel efficiency. While primarily for digital use, voice capability will be included in the system.

73, George N8CIX

Open Letter to the Amateurs of Colorado Springs.

From KD0SO

I have heard some complaints about the Auxiliary link that I have set up for talk back on UHF. Instead of the comments being made to me direct, they have been made over the air. That's the way it goes, when ignorance rears its ugly head. I would first like to say, "To those who do not like the auxiliary link listening to 146.520 Mhz. I regret any offense it may be to you." "It is of course, legal, by FCC standards and appreciated by others in the area. As to those who would suggest I should leave because they can't have it there way, I can only say NUTS TO YOU. When I installed the system, it was on an interim basis, till the remote station is installed. I wrote about it and explained its use and the how it could be controlled. It is obvious some don't or can't read."

I know there will always be some, who, because of their catapillar attitudes, will oppose change or improvement. This is a free country, the FCC license issued each Amateur does not give that individual the right to declare any discreet frequency there very own, to be run their way. It does say an Amateur can listen to any frequency within the Amateur spectrum and if that Amateur has the proper license they may use an auxiliary link to monitor that frequency on UHF.

The frequencies used by simplexers are not private channels. If that is what you desire, then go to commercial digital voice secure operations on Class E citizen band. If there is no harmful interference, precluding your transmission, there is no validity for complaint. I can see where there may be some jealousy, even anger, but I feel that if some reflection were made on the part of those attempting to be, shall we say "KC cops". They would understand. That just as you may

not like repeaters, there are those who enjoy the simplex too. By using a little intelligence, they have simply provided a way, to extend those frequencies, to longer range, as a public service. If you desire to reject that thought, that is your right. But, you do not have the right to deny anyone else their rights.

Now if it comes down to a vote, I would say, In my opinion; there are more pros than cons about the use of an auxiliary link for talk back of simplex frequencies. I shall not argue the point. I shall not belittle my self in a petty bantering of words on the air. There is however a proper way settle all of this. I would invite you to air your views in this paper. Public opinion is certainly well worth reading when, points of view, are well presented. In this case however, Such things as auxiliary links have been around, for a long time.

The power of the public is well known. You can if you wish, petition the FCC, to abolish Auxiliary links, or say have the ruling modified to read no linking of simplex frequencies to UHF. There are no doubt countless ways to change what you are not personally pleased with.

In my opinion however, I do not believe, you would be well received by others, in the Amateur ranks. Do not give up on what you feel to be a wrong. You may not be in the minority, after all. In closing I would like let all of you know, That you do not agree with me, will not alter my caring about Amateur radio. I do not always agree with you either, but this is America and she is the land of the free. I spent 22 years in the Military supporting that concept and the right to freedom of speech. I also believe That supports your rights too.

Best regards, KD0SO

P.S. You may call me to discuss this matter if you feel you would like keep you feelings private. I promise to keep a civil tongue and attitude. (591-2703)

73's

VHF & ABOVE NEWS

by Ron NK9P

These last few days have been so Spring like I have been thinking about the ARRL Spring Sprint Contests. These are great contests for anyone who likes the challenge of a contest but doesn't have the time for more traditional contests. The Sprints are all in the evening and last only 4 short hours. Each band has a separate nite so you don't need a lot of equipment to participate. The following is a list of the times for the Sprints and other VHF/UHF events in March and April:

March 16 EME perigee EME

March 18 New moon (eclipse of the sun)

March 21 +/- 2 weeks is optimum time for
transequatorial propagation.

April 11 ARRL 144-Mhz Spring Sprint
Contest (Monday)

April 13 EME perigee

April 16 New moon

April 19 ARRL 220-Mhz Spring Sprint
Contest (Tuesday)

April 21 Predicted peak of the Lyrids
meteor shower at 1730 UTC

April 27 ARRL 432-Mhz Spring Sprint
Contest (Wednesday)

April 29-May 1 DAYTON HAMFEST!!!

There should be a meeting of the Front
Range Microwave Society soon but I have not
heard of a date yet.

Any one have any ideas for a
VHF/UHF/Microwave Demo at our swapfest?

That's it for this month...73's and C U on
the bands. Ron NK9P



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1. Original FCC license, if any
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Irene Long 389-0730
Peter LaFosse 495-4829

THE NEW MACHINE***

For the better part of a year the NØCAM repeater ran on an interim basis using Motorola Motrac receiver and a Mocon 70, for a transmitter. This system was installed so that the old machine which was sold into commercial service, could be replaced by a new Micor series repeater. The long delay for change, came about due to, the components in the new Micor. They had to be changed, to bring the machine into Amateur frequency spectrum. KDØSO did the PA KCØTI did the exciter and receiver, WA6IFI did the logic interface. Though Paul's garage got cold at nights during the winter, the job was finished in Late January and the machine went up on the Mountain.



The old box (xmtr on top, controller, and receiver to the right duplexer, with interim KDØSO 450 repeater on top)

Even though a lot of thought and work went into the machine, you guessed it, a failure occurred in the logic interface and a field modification had to be made. It worked out well and very soon the machine was transmitting like nothing ever heard before. The solid state PA is rated at 200 watts, and had to be turned back a bit, so as to keep the effective radiated power within FCC specs. A field tune on the duplexer, corrected a few more errors and this resulted in an improvement in the receiver performance. Essentially the performance figures of the radio, are on a magnitude of exceptional, in comparison to the past.

It is also rumored that the dues for the machine have been lowered, to the lowest fees, for not only radio communications, but,

phone patch as well. The later providing some extraordinary services such as Long distance via NW telcom and Sprint. There is also emergency numbers and auto dial services available for the one low price. If you need further information on this you can contact Paul KDØSO at 591-2703. He will gladly give you the prices over the phone.

The Cheyenne Mountain Repeater group (NØCAM) Has put forth a lot of work to ensure a super operation. Their next step will be to work on links, that include the Denver area and south, for border to border coverage up and down the front range. Some of the interim agreements have already been made and progressive testing is under way. Test results have been good so far.



Are you sure that this is the right place Charlie? I don't know Dave (WA6IFI and KCØTI)

Some of photo's shown will give you some idea of what it's like, to do the work. There is a requirement for more than intelligence, in some cases.

The Cheyenne Mountain Repeater group wants you to know the machine is an open machine. So if you would like to talk on it, feel free to come up on 147.345 Mhz (+.600) for the input, and help yourself. We welcome your patronage.

Paul KDØSO

MEMBERSHIP DUES

It is not too late to submit your membership dues to Bud NØDDF. Remember that you will not receive the monthly edition of O Beat if you are not paid up.



The new repeater, controller on top PA, receiver and exciter, then the power supply.



Dave and Charlie lower the new box into place.



Dave looks for the repair part to do the mod.



The tower, with VHF and UHF antenna on top (we share the tower with commercial transmitter and MARS).

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ANTENNA SYSTEMS BY KDØSO

Here is yet another 160 meter antenna for your grab bag. I write this to possibly give some one an alternative to the monster vertical or sloper. It will primarily serve those who have a need for a good high angle radiator and have a little room for length, but height is a problem. I want to address this system from laymans terms and will leave out all the mumbo jumbo about transmission line antennas. While there are some lengths involved, there will be no formulas. Suffice to say the darn thing works. There are also two ways to run it...one being direct coax feed and or the tuner (correct all) method.

First I will lay out the system/s/ and you can choose the one you like best. After we look at the system I will tell you how to tune it. If you desire to run without the tuner.

System A is the straight wire method... System B is the curved wire method... when you just can't get that straight away run.

These systems can be loaded with a random length of coax cable. If you do not have an amplifier, then RG 58 will do. Yes the cheapoo Radio Shack stuff. If you are going to pour the coal to it then, you'll need RG 8. RG 58 will do fine up to about 600 watts rms.

Now for the tune up. First of all the antenna needs to be installed, at it's operating height. To tune you should start with the open end first. This means you should have an operational frequency in mind to begin with. ie: 1850 Khz. Prune the antenna till you approach about a 3:1 match. At this time you will have to work on both the open end and the shorted end together, till you get to 1.5:1 at least. It may be possible to arrive at a match some what less than that. But, if you get near 1.5:1 and it begins to rise again you may have to put some of the wire back on. So trim carefully. As to the ground rod for the shorted end... Use a good 10 footer at least. If you can't do that then two six footers spaced about 18 inches apart, electrically tied together will do.

A little bit about the variation in "SWR". The levels you obtain have alot to do with

the image of your antenna. This is directly proportional to the soil constancy and moisture content in the soil. To ensure a stable image antenna, I would recommend a good counterpoise emanating from the ground rod on the shorted end of the antenna, about 6 to 8 inches beneath the soil, following the antenna pattern. This will give you a better chance to achieve an SWR nearer 1:1.

Of course the antenna tuner can cure all your problems, to as. I am using an antenna similar to this one and have found, that close to the ground, provides a somewhat quieter antenna, than one of those monsters up in the clouds.

I hope you get as good a result on yours as I did mine.

My thanks to N9NB Ted Rappaport (Electrical Engineering, Purdue University), for the ideas on this system. He uses oneb himself, with remarkable results.

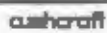
73's

Paul KDØSO

DIAGRAMS ON PAGE 9



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VE RESULTS (FEB)

Congratulations to those who recently upgraded during the VE test session of 13 Feb. 1988.

Name	Call	Before	After
Donald Grider	KEEEN	General	Extra
Marvin Pratt	KAZKK	Advanced	Extra
Roy McDaniel	NZHC	General	Advanced
Lindsay Fischer	NZIMK	General	Advanced
Shaun Wheeler	WA6GGM	General	Advanced
James Schneckenbust	NZHP	General	Advanced
Raymond Holbrook	NZHI	General	Advanced
Catherine Ritchie	WBZBOM	Novice	Technician
Charles Shelton Jr.	KASAGG	Novice	Technician
Bruce Lundebly	KBZLR	Novice	Technician
Peggy Lundebly	KBZLT	Novice	Technician
Stephen Alt	KAZVY	Novice	Technician
Linda Willadsen	KBZBJ	Novice	Technician
Sara Lee Hosea	KBZLQ	Novice	Technician
Donna Landry	KBZLS	Novice	Technician
Christian Kluth	KBZRV	Novice	Technician
Paul Gray	KAZBO	Novice	Technician
Richard Bolter	No Lic		Technician
William Pherigo Jr	No Lic		Technician

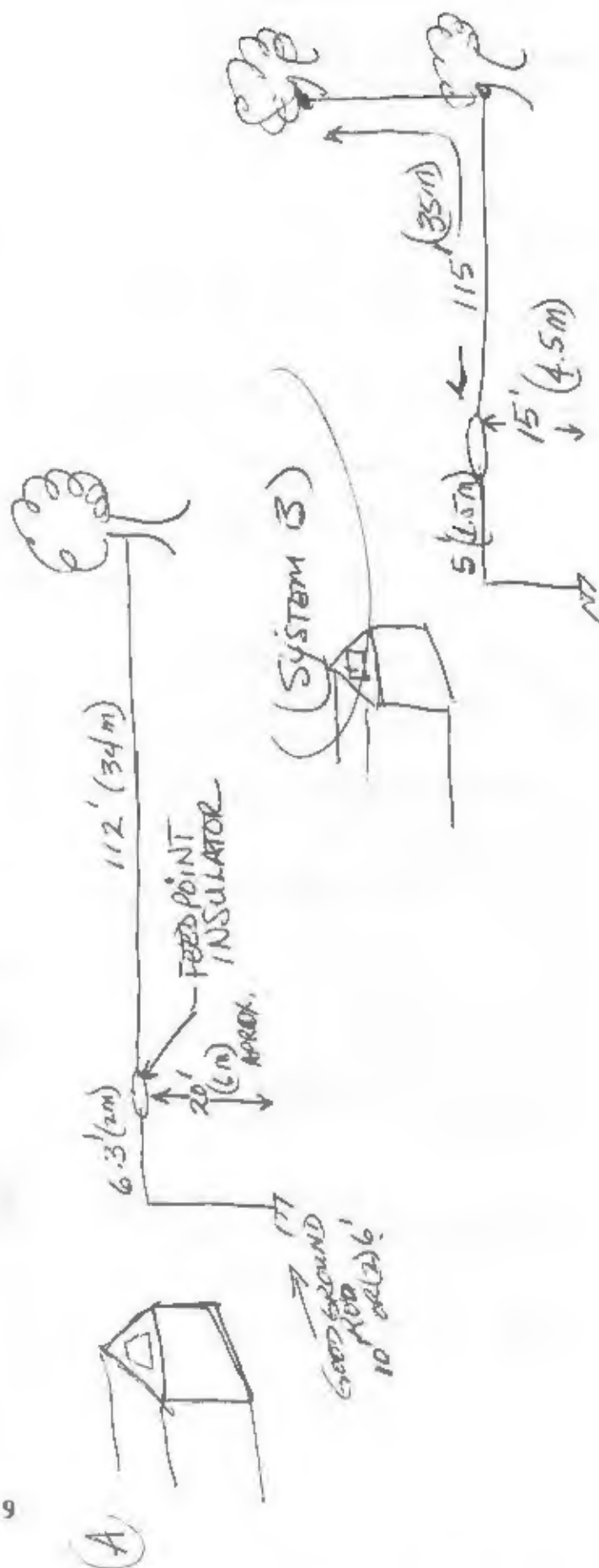
The following is a composite of the VE Testing:

Elements	1A	1B	1C	2	3A	3B	4A	4	Total
Elements given	3	3	3	3	15	3	6	3	39
Elements Passed	2	1	2	3	12	1	6	2	29
Percent Passed	67	33	67	100	80	33	100	67	57

Total applying 24—Total upgrades 19—Percent upgrades 79

Upgrades by class 2 Extra, 5 Advanced, & 12 Technicians. My thanks to all the VE's who participated in giving the above tests. 73 NLA

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MINUTES OF FEBRUARY GENERAL MEETING

submitted by Al N0CMW, secretary

The general meeting of the Pikes Peak Radio Amateur Association was held at Giuseppe's Old Depot Restaurant, Wednesday evening 10 February 88. The meeting was called to order by the president Ron NK0P at 19:30. There were approximately 36 members and guests present (not bad, considering the snow storm and ice conditions).

The minutes of the previous General Meeting and Board meeting were approved as printed in *J-Beat*.

Committee Reports

Note: Anyone wishing to help out on any of these committees, please contact the chairman at the phone number listed. Thank you for your support.

Treasurer - Bud N0DDF (599-7699)

Previous balance was \$1544.04, income of \$240.10, expenses of \$239.54 leaving a balance \$1544.60. (Al N0CMW was filling in for Bud).

Interference - Ron NK0P (593-8352)

One case of interference happening on a cordless telephone and TV. All other phones and TV's seem to be OK.

Education - Harley KC0TO (634-4555)

Next Novice classes will commence April 5 and will be every Tuesday and Friday evenings for the following 6 weeks. Location will be in the Civil Defence Training Room beneath Police station on Kiowa.

Publicity - Karen N1FED (495-0095)

Karen is still learning the position.

Colorado Council of Amateur Radio

Clubs (CCARC) - Oak K0ROL (591-1426)

Next Meeting will be the 20th of March in Denver.

Deaf and Blind School - Jim WA9ABB:

(598-7543). The Icom 730 is set up and working OK. The latest Novice at the school will try for his Tech on Saturday.

J-Beat - Keith NY0T (637-1525)

Going to experiment with a Pay Sale / Want Ad section in the newsletter. Those wishing to submit are asked to contact Keith or Al, N0CMW (473-1660).

Field Day

ARES - Al N0CMW (473-1660)

ARES meets every Wednesday night except for Club meeting nights on the 37/97 repeater at 1900 local. Would like to see more participation.

Picnic

Public Service - Mike K0TER (636-1290)

Nothing new to report

VE Testing - Irene AH6GF (389-0730)

VE Testing will be Saturday 13 Feb 88 at the First United Methodist Church on Nevada and St. Vrain.

Old Business:

Nil

New Business:

Jim WA9ABB volunteered to organize the Club Picnic. It will be held the last Saturday in August at a place to be determined.

For Field Day Max KD0EL is looking at an alternative site as the Forest Service has hinted that they will be having a substantial increase in Fees for the site that we had last year.

There being no further business the club adjourned for the break.

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TAB BOOKS

Prizes - Keith NYØT

Winners were:

KAØZHP	Sharon	- Gift Certificate OEM
KCØNC	Les	Digital Multimeter
KG5N	Nick	Wintronics Gift Cert
NØFS	Frank	CMOS Cook Book
KAØZDY	Jeff	Licence Manual
NØCYR	Jake	Repeater Directory

Program:

After the break, Keith NYØT presented a program on satellites, how to use them and where to find them.

The meeting was adjourned at 2130.

The next meeting will be 09 Mar 88.

MINUTES OF DECEMBER BOARD MEETING

submitted by Al NØCMW

The board meeting was held on Monday 15 Feb 88 at the home of Keith NYØT. Meeting was opened by President Ron NKØP at 1900 hrs. Present were Bud NØDDF, Keith NYØT, Al NØCMW, Chris NXØE, Bdale N3EUA, Ron KAØZHO, Nick KG5N, Karen N1FED, Jake NØCYR, Susan KA7NNX, Les KCØNC and Ron NKØP.

The tables have been rented for the swapfest with a delivery set for 1700 Friday May 20th.

The Board allocated \$100.00 for Karen to spend on publicity for the Club.

Les KCØNC will get the grandprize for the club. He stated that Mary Chatelain had volunteered to make an afghan for the club for only the cost of the material. The offer was accepted and it will be raffled off under separate tickets.

The Board voted that any advertiser that is behind by 2 billing periods will be dropped. One of our advertisers is being sent a letter to this effect.

Les KCØNC will also look at getting a room for the VE Testing to take place at the swapfest on 21 May. This is subject to change based on availability.

The board will look into the availability of a projector at civil defence and possibility of converting some of the training slide to transparencies.

There being no further business, the Board adjourned for home made soup at 2030 hrs.

COMMITTEES

The following represents the list of those who volunteered to fill in on the various club committees.

ACTIVITY COMMITTEE

Renay Borst	KAØROY
Jeffrey Boyes	KAØZDY
Ronald Morris	KAØZHO
George Lewis	NØHXI

PUBLICITY COMMITTEE

Karen Honer	N1FED
E. J. Lund	KDØNB
Don Ross	NL7CO
Don Hobisel	KEØGJ

MEMBERSHIP COMMITTEE

Jody Borst	KAØROZ
Doug Brower	NØHJT

AUDIT COMMITTEE

Les Borst	KCØNC
Chris Smith	NXØE

TECHNICAL INSTITUTION

Harley Hansen	KCØTQ
Nick Hulbert	KG5N
Bud Libengood	NØDDF
Max Stafford	KDØEL
Bob Haggart	NØCTV
Ray Uberecken	AAØL

RFI COMMITTEE

Ron Deutsch	NKØP
Bdale Garbee	N3EUA
Jeff Boyes	KAØZDY
Ray Uberecken	AAØL

PROGRAMS & ENTERTAINMENT

Malcolm Benten	KE9S
Karen Honer	N1FED

MARCH MEETING

The next regularly scheduled meeting of the Pikes Peak Radio Amateur Association will be held on Wednesday, 9 March, 1988 at 7:30pm at Giuseppe's Depot at #10 Sierra Street. Mystery guest with mystery topic.

MILEY'S RADIO

Jess KØTAA 719 W. 7th St. Florence, Colorado 81226 (303) 784-3040

Hours 9 to 6 Tuesday through Friday — Saturdays 9 to 1 — Evening Hours 7:30 to 10 (Call Ahead)

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Hamfest Schedule for 1988 as of February 1:

February 6 & 7 Littlefield, TX
February 20 & 21 Harlingen, TX
Will not be home February 5—March 7
March 11—March 14 Kearney, NE
March 18—March 21 Midland, TX
March 20 Aurora CO Sorry, we can't make it.
April 8—April 11 Moorland, OK
April 21—April 25 Bean Feed—Las Cruces, NM
April 29—May 3 Sierra Vista, AZ
Will not be home from April 20 to May 4
May 21 Colorado Springs
May 10—May 11 Superfest, Loveland, CO
Friday Noon—9 P.M., All day Saturday, No Sunday Swapfest
No Hamfests Scheduled June 4, 18 or 25 —
But expect Grand Junction and Loveland, TX
to choose two of those dates.
July 2—July 4 None Scheduled
July 9—July 10 Laramie, WY
July 16—July 17 East Glacier, MT

July 22—July 24 Woodland Park, CO
July 30—July 31 Nothing Scheduled Yet
August 6—August 7 W.I.M.U.—Jackson Hole, WY???
August 13—August 14 Probably Amarillo, TX
August 20—August 21 None Scheduled
August 27—August 28 None Scheduled
September 3—September 4 Alamogordo, NM
September 9—September 11 Campout Hamfest Laramie, WY
or National Convention in Portland, OR
September 16—September 18 Wichita Falls, TX (Tentative)
September 23—September 25 Santa Fe, NM
October 1—October 2 Lubbock, TX
October 8—October 9 Lubbock, TX
October 15—October 16 Nothing Scheduled
October 22—October 23 Nothing Scheduled
October 29—October 30 Nothing Scheduled
November 5—November 6 Odessa, TX
December 3—December 4 Apache Junction, AZ (Tentative)

We will be closed and traveling to Hamfests in February and for a working vacation. Will get your phone messages by remote and call you that evening or next morning. Please leave both day and evening phone numbers on our machine. Will be back home in time to make the Kearney, NE and Midland, TX hamfests.

Not running a list of new equipment this month because of probable price increases on imports February 1 and March 1. We have most new equipment in stock or will ship it to you direct. If you're looking for a certain rig — put a message on our machine and we'll try to find it for you.

73's — Jess

2/88

Membership Application

PIKES PEAK RADIO AMATEUR ASSOCIATION, INC.

P.O. Box 16521

Colorado Springs, CO 80935

Name _____

Address _____

City _____ State _____ Zip _____

Call _____ License Class _____

Are You An ARRL Member? ☐ Yes ☐ No Telephone _____

☐ Full Member \$12.00 ☐ Family Membership \$15.00 ☐ Newsletter Only \$4.00

☐ Age 65 or older, or under 18 \$8.00

Additional Names _____ Call _____ Class _____

Associate Member \$8.00 ☐ (Outside Teller & El Paso Counties.)